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OBJECTIVES: To compare the ability of four measures of patient retention in HIV expert care to predict clinical outcomes and health care utilization over 24 months. **METHODS:** This retrospective study examined Veterans Health Administration (VHA) beneficiaries with HIV (ICD-9-CM codes 042 or V08) receiving expert care (HIV-1 RNA and CD4 tests within 1 week of each other) at VHA facilities from October 1, 2006 to September 30, 2008. Patients were 18-89 years old with ≥24 months of VHA eligibility. Retention measures included: "appointments annual" (≥2 appointments annually at least 60 days apart), "appointments missed" (missed ≥25% of appointments), "appointments infrequent" (≥6 months without an appointment), and "appointments missed or infrequent" (missed ≥25% of appointments or ≥6 months without an appointment). Outcomes included: virologic suppression (HIV-1 RNA <500), CD4+ >500, development of an HIV-related condition, progression to AIDS, emergency room (ER) use, and hospitalization. Multivariable regression was used to determine associations between retention measures and outcomes. **RESULTS:** Study subjects (n=8,845) had a mean age of 52 years and 97% were male; 51% were black, 34% white, 11% other, and 4% unknown. At baseline, 64% of patients were virologically suppressed and 37% had a CD4+ >500. At 24 months, 82% were virologically suppressed and 46% had a CD4+ >500. During follow-up, 42% developed an HIV-related condition, 13.0% progressed to AIDS, 0.3% died, 48% visited the ER, and 28% were hospitalized. All four retention measures were associated with virologic suppression at 24 months. In addition, "appointments annual" was predictive of CD4+ >500 and "appointments missed" was associated with CD4+ >500, development of an HIV-related condition, progression to AIDS, ER use, and hospitalization. **CONCLUSIONS:** While all four retention measures had clinical value, "appointments missed" was the most accurate predictor of clinical outcomes and health care utilization at 24 months among VHA patients in HIV expert care.

PHS3

CLINICAL AND ECONOMIC BURDEN OF ATRIAL FIBRILLATION IN MEDICARE BENEFICIARIES WITH ACUTE CORONARY SYNDROME

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OBJECTIVES: To evaluate clinical and economic burden among Medicare beneficiaries hospitalized for acute coronary syndrome (ACS) with comorbid atrial fibrillation (AF). **METHODS:** This study used data from the Medicare Current Beneficiary Survey. Patients with an incident hospitalization for ACS between March 1, 2002-December 31, 2006 and without similar events during 6 months prior were included (date of the first event denoted as the index date). Comorbid AF was identified from Medicare claims during 6 months prior to the index date. Annual health care costs were summarized for the calendar year when the incident ACS event occurred. Incidence rates of subsequent cardiovascular (CV) hospitalization events and mortality was estimated and compared between patients with and without AF. Cox proportional hazards regressions were used to estimate the relative risk of AF on mortality and CV-events adjusting for patient socio-demographic and clinical characteristics. Multi-stage sampling design and population weights were accounted for to yield national representative estimates. **RESULTS:** We identified 795 incident ACS patients representing over 2.5 million Medicare beneficiaries (mean age 76 years; 49% male; 13% with AF). Compared with ACS patients who did not have AF, ACS-AF patients had higher total health care costs ($66,586 vs. $48,031; $P<0.001$) and higher mortality after their ACS admission (574 vs. 277 deaths/1,000 person years; $P<0.001$). Among those discharged alive, patients with AF had a higher risk of subsequent CV-events (836 vs. 386 cases; $P<0.001$) if 1,000 patients were followed for 6 months. The adjusted results showed 59% higher risk of CV-events associated with AF (HR=1.590; 95% confidence interval: 1.247-2.026). **CONCLUSIONS:** Using a national representative sample of Medicare beneficiaries, we observed worse clinical and economic outcomes after hospitalization for ACS in patients with comorbid AF. The increased health care burden associated with AF underscores the importance of novel strategies to address management of this population.

PHS4

MULTIDISCIPLINARY PHYSICIAN CARE AND MORTALITY IN HEPATOCELLULAR CARCINOMA

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OBJECTIVES: Multidisciplinary physician care has increased for many cancers yet little evidence exists for hepatocellular carcinoma (HCC). The study objective was to evaluate the association between multidisciplinary care and mortality in HCC. **METHODS:** Non-transplant treated patients with an HCC primary diagnosis in 2000-07 were followed-up in SEER-Medicare data. Multidisciplinary care was operationalized as the number of distinct specialists seen pre-treatment, including surgeons, radiology oncologists, intervention radiologists, hematologists/medical oncologists, gastroenterologists, and generalists. We built survival analysis models controlling for treatment, demographics, and clinical characteristics, and adjusted for selection/survival bias using inverse probability weighting and time-dependent covariates. **RESULTS:** Of 3320 treated HCC patients, 1323 (40%) saw one, 1250 (38%) saw two, and 747 (23%) saw three or more disciplines. Liver directed therapy and radiation was administered to a greater proportion of patients who encountered multiple specialists compared to those who saw a single discipline, who received more resection and chemotherapy. Multidisciplinary care was associated with stage 3 HCC and hepatitis C presence. In contrast, patients from rural areas and those diagnosed with stage 4 HCC saw fewer specialists prior to treatment. In time-dependent, propensity score adjusted survival analysis, patients who saw three or more disciplines had 10% (P=0.05) reduced mortality, compared to those who saw one discipline. When stratified by treatment received, patients on chemotherapy who saw three or more disciplines had 28% (P=0.002) reduced mortality. **CONCLUSIONS:** Multidisciplinary care for non-transplant HCC patients was associated with reduced mortality, particularly among chemotherapy recipients. While adjusting for selection and survival bias, our study may not fully capture the confounding effects of referral patterns among specialists on treatment and survival. Our findings provide evidence that may further support the development of models for coordinated health care delivery such as accountable care organizations (ACOs).

PHS5

IMPACT OF A PHARMACY-BASED DIABETES MANAGEMENT PROGRAM ON GLYCEMIC CONTROL IN AN INPATIENT GENERAL MEDICINE POPULATION

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OBJECTIVES: A pharmacy-based inpatient diabetes management program was evaluated to determine if improved glycemic control could be achieved in a general medicine patient population. **METHODS:** A retrospective chart review of 151 patients with blood glucose (BG) values outside the range 70-180 mg/dL was conducted. Observations for the baseline group (n=84) were derived from July 2010 and for the intervention group (n=67) in October 2010. The odds of poor glycemic control for patients in the intervention versus baseline groups were assessed by multivariate generalized estimating equations. These methods were also used to assess patient characteristics associated with poor glycemic control. **RESULTS:** Across all patients, no evidence was observed indicating the pharmacy program decreased the proportion of days spent out of the targeted blood glucose range [70-180 mg/dL: OR 0.91 (95% CI: 0.83 – 1.02); 70-250 mg/dL: OR 1.03 (95% CI: 0.88 – 1.24)]. However, the subgroup of patients whose admission blood glucose was less than 200 mg/dL (55% of intervention group) experienced a significant reduction in days out of range for both ranges [70-180 mg/dL (OR: 0.72, 95% CI: 0.61– 0.88) and 70-250 mg/dL (OR: 0.5, 95% CI: 0.33 – 0.71)]. No improvement in glycemic control was observed in patients with an admission BG 200 mg/dL or greater. These patients had more disease- and social-related factors associated with poor glycemic control. **CONCLUSIONS:** A subpopulation, patients whose admission glucose was less than 200 mg/dL, experienced improvement in glycemic control in the pharmacy-based program. The remaining patients were generally more complicated from a disease-state and social perspective and experienced no improvement. These patients may require a more intense, multi-disciplinary approach that is better matched to the constellation of factors responsible for their condition.

PHS6

PREDICTORS OF WILLINGNESS TO QUIT SMOKING AMONG A COHORT OF MALE COLLEGE STUDENTS IN THE KINGDOM OF SAUDI ARABIA

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OBJECTIVES: The WHO with its MPOWER (Monitor Protect Offer Warn Enforce Raise) program is assisting the Kingdom of Saudi Arabia (KSA) one of the top 10 cigarette importing countries with a 29% reported smoking prevalence among college Students. This study determined predictors of willingness to quit smoking among a cohort of Saudi male college students. **METHODS:** A cross-sectional study was conducted in a cohort of male (≥18 years) college students that were recruited from three higher education institutions located in two regions within KSA. A pre-tested valid survey was used to collect data including socio-demographics, addiction level, presence of a smoker within the family, social pressure to quit, and number of past attempts to quit. The willingness-to-quit variable was defined by asking participants if they had seriously thought about using smoking cessation strategies. Bivariate and logistic regression analyses were performed to assess factors associated with willingness to quit smoking. **RESULTS:** About 467 surveys were received (response rate 51%). Around 30% (n=104) of participants were smokers of which 72% (n=75) indicated their willingness to quit smoking. The average age of those willingness-to-quit was 22.6 (±2.2) years with an income of <$3200/year. The majority (95%) attempted to quit at least one time in the past. Only, willingness to quit smoking was significantly associated with past quit attempts (P=0.0017; OR=20.6; 95%CI=3.1-137) after controlling for age, marital status, income, addictive level, current or former smoker family member, having a smoker friend, and social

pressure to quit. **CONCLUSIONS:** Developing smoking cessation interventions based on punitive incentives or policies such as smoke free campuses may benefit KSA in the long run. MPOWER program may not be enough for improving smoking cessation in Saudi college students. Investing in programs that can mould the young minds at an early age to quit smoking need to be developed.

PHS7

SURVEILLANCE OF CARDIOVASCULAR RISK FACTORS AMONG PATIENTS UNDERGOING CORONARY ARTERY BYPASS SURGERY

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OBJECTIVES: To investigate the prevalence of cardiovascular risk factors among patients undergoing elective Coronary Artery Bypass Graft surgery (CABG) in Karachi, Pakistan. **METHODS:** Cardiothoracic surgery quality improvement is a core value of health care provision. In order to improve quality of care, information on key indicators needs to be systematically collected and maintained. In 2006, the cardiothoracic department at Aga Khan University developed an infrastructure that would enable us to answer the more challenging research queries in cardiac surgery practice. The resulting electronic cardiothoracic database is based on the Society of Thoracic Surgeons database. We chose the following aspects of patient care to be included in the database form: pre-surgery patient condition and medications, anesthesia information, perfusion information, surgery information, recovery information, status of the patient atdischarge, 30-days and 365-days post-surgery follow-up information .Information was collected through structured questionnaire and entered into Microsoft Access and analyzed in SPSS(Statistical package of social sciences). **RESULTS:** In this prospective study 2073 undergoing elective CABG were included. Mean age of the patients was 54.85±9.7 years, 14.7% of patients were females. Prevalence of risk factors among the study population, included: 47.10% were overweight, 14.7% were obese, 47.7% were diabetic, 69.50% were hypertensive, 50.20% were dyslipidemia, 47.7% were as smokers, 9.2% were in renal failure, addition, 53% of patients had family history of coronary artery disease, 46.7% had a history of myocardial Infarction (MI). The operative mortality rate was 0.3%. Post surgery complications included renal failure in 14.8% of patients, arrhythmias in 7%, reoperation in 2.3%, prolonged ventilation in 3.1%. **CONCLUSIONS:** There is a high prevalence of risk factors like dyslipidemia, hypertension, diabetes and smoking for ischemic heart disease in our population. Once we establish this fact we will work to control the risk factors and reduce the burden of disease so that's why this study is being done

PHS8

CHARACTERIZATION AND FACTORS ASSOCIATED WITH POST-TRANSPLANT HEADACHES: A RETROSPECTIVE SURVEY STUDY

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OBJECTIVES: Post-transplant headache (post-TX HA) is a recognized complication in transplant procedures. Its treatment can be problematic given the status of the patient and other factors. But this complication is infrequently discussed as a significant clinical problem since this symptom is generally considered less important than other complications, like organ rejections. The objective of this study is to characterize post-TX HA and to assess the factors associated with post-TX HA. **METHODS:** A survey was developed to assess these poorly investigated factors and consisted of four sections, include patients' risk factors for headaches, the characteristics of post-TX HA, patients' headache management techniques and effectiveness, the demographics of the patients. The participants of the study were patients who received kidney transplants at University Hospital in Cincinnati, OH and who currently follow-up at the Kidney Transplant Clinic of University Hospital, where the survey was administered. Other data include current medications, alcohol/tobacco/illicit drug use, and lab values were collected as well. A logistic regression model was constructed to evaluate the factors associated with the post-TX HA with the consideration of common covariates. **RESULTS:** A total of 95 patients were included in this study. 41 patients reported they had experienced at least one headache episodefollowing transplant. Compared to the counterpart, the headaches patients experienced post transplant were significantly associated with age (OR=0.947, 95% CI is 0.901 to 0.995) and presence of pre transplant headaches (OR=14.123, 95% CI is 3.810 to 52.346). In terms of comorbidities, only chronic pain (neck, back, shoulder, etc.) is a factor showing statistically significant association with post-TX HA (OR=7.269, 95% CI is 1.737 - 30.429). **CONCLUSIONS:** Patients who had headaches pre transplant and suffered chronic pain are more likely to have post-TX HA. In addition, compared to older patients, younger patients are more likely to experience headaches after transplant.

HEALTH SERVICES – Cost Studies

PHS9

BUDGET IMPACT MODEL ASSESSMENT OF THE COSTS OF CONVERTING DIALYSIS PATIENTS WITH A HIGH PILL BURDEN ON SEVELAMER TO LANTHANUM CARBONATE

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OBJECTIVES: The phosphate binders (PBs) sevelamer hydrochloride or carbonate (SH/SC) and lanthanum carbonate (LC) will be included in the Centers for Medicare and Medicaid Services (CMS) bundled payment scheme from 2016. The aim of this study was to determine the inflection point in daily drug dose at which a switch to LC becomes cost-effective in dialysis patients on SH/SC with a high pill burden. **METHODS:** A Microsoft Excel-based pharmacy budget impact model (BIM) was developed to carry out a comparative analysis of the cost impact of LC versus SH/SC therapy from the standpoint of a US-based dialysis organization. Model assumptions were based on published literature, market research data, and prescription information. User inputs included drug cost, adherence rate, number of patients on dialysis, first-line PB treatment, titration protocols, and serum phosphate target levels. **RESULTS:** The cost of an initial dose of SH/SC 4800 mg/day was lower than that of LC 1500 mg/day. After a first titration step, SH/SC 7200 mg/day vs LC 2250 mg/day was cost-neutral. Following a second titration step, SH/SC 9600 mg/day vs LC 3000 mg/day exhibited cost savings in favor of LC of $15/day vs SH and $8/day vs SC. The estimated potential cost saving of switching one patient to LC 3000 mg/day compared with up-titration to SH or SC 9600 mg/day is $451 or $228/month, respectively. This equates to an estimated saving of $13.8 million/year for the 4096 patients who were modeled to switch to LC based on utilization data. **CONCLUSIONS:** BIM analyses indicate that the inflection point at which LC becomes cost-effective is SH/SC 7200 mg/day. Substantial savings in PB costs can be realized by switching patients to LC instead of increasing the SH/SC dose above 7200 mg/day. This strategy has the potential to reduce the overall budgetary impact for US-based dialysis centers under the CMS bundle.

PHS11

ECONOMIC BURDEN OF ACUTE UROGENITAL CONDITIONS AMONG TYPE II DIABETES PATIENTS AND NON-DIABETICS IN THE UNITED STATES

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OBJECTIVES: To compare the health care costs of acute urinary tract infections (UTIs) and genital infections (GIs) between adults with type 2 diabetes mellitus (T2DM) versus those without DM (no-DM). **METHODS:** Using administrative claims data and a retrospective cohort design, commercially-insured adults with UTIs (cystitis or urethritis) or GIs (vulvovaginal candidiasis, bacterial vaginosis, or balanitis) from 2006-2010 were selected. The first UTI or GI event after a 6-month continuous enrollment period was identified, with the event date as the index date. T2DM patients, identified by ICD-9 diagnosis codes and use of non-insulin, anti-diabetic medications, were matched with a 1:3 ratio to no-DM patients on gender, age group, index year, and recurrence status (≥2 events) in the 6-month pre-index period. Health care costs related to UTI and GI events in the 30-day post-index period were compared between T2DM and no-DM cohorts. **RESULTS:** Matched UTI cohorts included 314,390 males (mean age: 59) and 944,749 females (mean age: 57). Total health care costs (mean ± standard error) related to UTIs were higher for T2DM than no-DM among males ($569±13 vs. $412±5) and females ($437±5 vs. $303±2). Inpatient and outpatient costs related to UTIs were also higher for T2DM than no-DM among males ($265±11 vs. $148±4; $221±5 vs. $189±2) and females ($163±4 vs. $88±2; $190±2 vs. $152±1), respectively. Matched GI cohorts included 23,853 males (mean age: 53) and 336,932 females (mean age: 50). Total health care costs related to GIs were higher for T2DM than no-DM among males ($457±30 vs. $332±14) and females ($181±6 vs. $133±1). The same pattern was observed for GI-related inpatient and outpatient costs. All cost differences between T2DM and no-DM were statistically significant ($p<0.05$ by Wilcoxon rank-sum test). **CONCLUSIONS:** Relative to non-diabetics with urogenital conditions, the costs of T2DM patients with urogenital conditions were significantly higher.

PHS12

ASSESSING THE IMPORTANCE OF FIBROSIS STAGE ON THE COST-EFFECTIVENESS OF BIRTH-COHORT VERSUS RISK-BASED SCREENING AND TREATMENT FOR HEPATITIS C VIRUS INFECTION

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OBJECTIVES: Recent studies have demonstrated that birth-cohort (BC) versus risk-based (RB) screening for hepatitis C virus (HCV) infection in the U.S is cost-effective. The cost and logistical implications of widespread screening and treatment are important considerations from a policy perspective; therefore, the aim of this study was to evaluate where the greatest potential for cost savings and quality adjusted life years (QALYs) gained exists, when comparing BC versus RB screening policies. **METHODS:** A published Markov model describing the natural history of HCV was adapted to a U.S setting. The BC target population was subjects born from 1945-65. Eligible patients identified were treated with a direct acting anti-viral (DAA) in combination with pegylated interferon plus ribavirin, achieving SVR rates of 0.78/0.76 for genotype 1 (Gt1) and 2/3 (Gt2-3) respectively for fibrosis stages F0-F2; 0.62/0.67 (Gt1/Gt2-3) for F3 and 0.62/0.57 (Gt1/Gt2-3) in F4. Published U.S. 2011 costs were used and both costs and benefits were discounted at 3.0%. **RESULTS:** From a tested population of 66.2 million, 1,070,840 were identified and 551,800 were allocated treatment over a ten year period. The cost-effectiveness (CE) of BC compared to RB screening and treatment was $32,945; with treatment prioritized towards F3/F4 the CE decreases to $23,269 and with treatment prioritized towards F0/F1 increases to $44,721. Furthermore, prioritizing treatment in more advanced patients had the potential to reduce costs by $3,169,477,535, increase QALYs by 159,098 and avoid an additional 31,636 HCV related complications compared to prioritizing treatment in less advanced patients. **CONCLUSIONS:** This study confirms that BC screening and treatment is cost-effective across all fibrosis stages and demonstrates that a strategy prioritizing treatment in F3/F4 would minimize the